



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

4C

AK

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/161,981	09/29/98	KIMURA	A Q051885

MM92/0328
SUGHRUE MION ZINN MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE NW
WASHINGTON DC 20037-3213

EXAMINER

MULPURIS

ART UNIT	PAPER NUMBER
----------	--------------

2812

DATE MAILED: 03/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/161,981

Applicant(s)
Kimura Et Aal

Examiner
S. Mulpuri

Group Art Unit
2812



☒ Responsive to communication(s) filed on Dec 11, 1900

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-4 and 9-17 is/are pending in the application.

Of the above, claim(s) 5-8 and 18-26 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-4 and 9-17 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit:

DETAILED ACTION

THIS ACTION IS IN RESPONSE TO APPLICANT'S ELECTION OF METHOD CLAIMS FILED ON 12/11/00.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art in combination with Hasegawa et al (US 6,030,849).

Admitted prior art teach the same sequence and same composition of layers 104-110, as claimed, with nitride based semiconductor layer of first conductivity type layer, nitride based active layer, and nitride based p-type layer, nitride based semiconductor layer "214"; depositing and patterning the silicon oxide mask "215" having hole on the layer "214"; selectively growing a semiconductor layer "111" in the hole using silicon oxide as mask on a semiconductor layer "214"(see fig. 8 and 9 as captioned as prior art and pages 5-9). However, admitted prior art lacks only claimed limitation, such as using silicon nitride. Hasegawa et al discloses forming devices using GaN and alloys of GaN compound semiconductor layers. Hasegawa et al discloses using silicon nitride as an alternative to the silicon oxide(see col. 3, lines 59-63, and col. 5, lines 1-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to deposit silicon nitride as an alternative to silicon oxide because Hasegawa et al discloses the

Art Unit:

functional equivalence of silicon oxide and silicon nitride to selectively grow GaN layer at a temperature of 1000 C(see col.14, lines 1-25). Hasegawa discloses GaN layer with silicon nitride layer, wherein portion of constituents of GaN is same as portion of silicon nitride, wherein constituent element is nitrogen in both materials.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art teaches growing GaN layers for LEDs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mulpuri whose telephone number is (703) 305-5184. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


SAVITRI MULPURI
PRIMARY EXAMINER